Lorenzo Padoan

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BRIEF INTRODUCTION

I am a software engineer deeply passionate about large language models (LLMs) and driven by a love for end-to-end development. From research findings to delivering production-ready solutions, my curiosity and enthusiasm are fueled by impactful challenges. My journey in machine learning and software development is marked by a commitment to exploring, innovating, and transforming ideas into tangible, effective solutions.

EXPERIENCE

- **Motion Analytica**
  Research Software Engineer   *October 2022 - Now*
  - **Developed an analyisis assistant agent**: Developed with a LLM an agent that is as able to assist a user to gain insights from results of a mobility analysis
  - **Engineering of big data algorithms**: Engineering and development of telco big data algorithm provided by research findings
  - **Mobility analysis Emilia Romagna**: Conducted a mobility analysis across telco big data of italians and foreigners through the use of O/D matrices and through the use of various Personas to identify different behaviors
  - **Unsupervised Learning Method**: Developed an approach for detecting micro and macro behavior of tourists visiting Italy based on Tripadvisor reviews, developed the correspondant ETL pipeline and dashboard for master thesis project
  - **Developed Geo Referencing POI system**: Developed geo-referencing point of interest system, resulting in significant productivity improvements for the sales team

- **University of Padua**
  Research Fellow   *February 2022 - Now*
  - **Research on Large Language Models**: Specialized LLMs, Finetuning, Local LLMs, Quantization
  - **Research on sequence matching algorithms**: Conducted research on high-performance algorithms to apply to telco data provided by one of the leader telephone operators

- **Ca' Foscari University of Venice**
  Student Intern   *January 2020 - June 2020*
  - **Crawling system**: Retrieve snapshots of the top 10000 most famous websites by the most famous web archives(e.g Internet Archive, archive.today...)
  - **Security analysis of web archives**: Search of useful security headers inside the snapshots, provided by the crawler

SKILLS SUMMARY

- **Languages**:   Python, SQL, C++, Java
- **Frameworks**:   Langchain, Pandas, Pyspark, GeoPandas
- **Tools**:   Docker, GIT, Dbveaver, Visual Studio Code, Tableu
- **Platforms**:   Windows, MacOS, Linux, AWS
- **Soft Skills**:   Googling, Prompt Engineering, Good communications skills

EDUCATION

- **Ca' Foscari University of Venice**   Venice, Italy
  Master of Computer Science - Data Management and Analytics;   *September 2020 - October 2022*
  Main Courses: *Artificial Intelligence, Computer Vision, Statistical Learning, Cryptography*

- **Ca' Foscari University of Venice**   Venice, Italy
  Bachelor of Computer Science   *September 2016 - August 2020*
  Main Courses: *Databases, Software Engineering, Operations Research, Linear Algebra, Statistics*

EXTRA

- **ScrapegraphAI**   link
  Founder and maintainer of Open source scraping library that leverages LLMs   *January 2024 - Now*
  Technologies/tools: *LLms, RAG, Graphs, Langchain, Vector databases*

LANGUAGES

- **Italian**:   Native speaker
- **English**:   B2 (professional knowledge)
- **Spanish**:   A2 (basic knowledge)